

Amendments to the claims:

1. (Cancelled)

2. (Currently Amended) A process for decreasing the content of a particulate material contained in an exhaust gas from a lean burn engine, comprising the steps of:

heating, by a heater, the exhaust gas at a temperature greater than 70°C prior to the exhausted gas being treated in a plasma generator;

generating plasma in the exhaust gas discharged from the lean burn engine, the exhaust gas containing the particulate material, to thereby produce a plurality of O(¹D) radicals and subsequently produce a plurality of per-hydroxide excited species; and

oxidizing the particulate material by the per-hydroxide excited species; wherein, in plasma generating conditions, an intensity E of an electric field is set at a value equal to or larger than 3.0 kV/mm, and a power density Dw is set at a value equal to or larger than 1 W/cm³.

3. (Previously Presented) A process for decreasing the content of a particulate material contained in an exhaust gas from a lean burn engine according to claim 2, wherein a surface of at least one of opposed electrodes which is opposed to another electrode is covered with a dielectric.

4-12. (Cancelled)